

CLAIMS

What is claimed is:

1 1. A device for reducing the growth of a bone, the device comprising:
2 a power source for generating a current, wherein the current is effective to reduce
3 the growth of a bone; and
4 at least one electrode in electrical communication with the power source, wherein
5 said electrode is adapted to apply the current to a predetermined location of the bone.

1 2. The device of claim 1 further comprising more than one electrode in
2 electrical communication with the power source.

1 3. The device of claim 1 wherein the at least one electrode comprises a
2 threaded portion.

1 4. The device of claim 1 further comprising a controller in electrical
2 communication with the power source and the at least one electrode, wherein the
3 controller distributes a predetermined current to the at least one electrode.

1 5. The device of claim 4 wherein the controller regulates the frequency and
2 duration the current is distributed to the at least one electrode.

1 6. The device of claim 4 wherein the controller regulates the amount of the
2 current applied to each of the at least one electrode.

1 7. The device of claim 4 wherein the controller programmably regulates the
2 amount of the current applied to each of the at least one electrode, and the frequency and
3 duration the current is applied to each of the at least one electrodes.

1 8. The device of claim 1 wherein the power source and the at least one
2 electrode delivers a current of at least 50 μ A.

1 9. The device of claim 1 comprising at least two electrode and wherein the
2 current delivered to at least two electrodes is different.

1 10. A method for reducing the growth of a bone, comprising applying bone
2 growth reducing electrical current to at least a portion of the growth plate of a bone,
3 wherein the current is effective to reduce the growth of the bone in the applied region.

1 11. The method of claim 10 wherein the bone growth reducing electrical
2 current is effective to arrest the growth of the bone in the applied region.

1 12. The method of claim 10 wherein the bone growth reducing electrical
2 current is effective to arrest the growth of the entire bone.

1 13. The method of claim 10 further comprising positioning at least one
2 electrode near the growth plate of the bone, wherein the bone growth reducing electrical
3 current is applied to the growth plate through the at least one electrode.

1 14. The method of claim 10 further comprising:
2 positioning at least one electrodes near the growth plate of the bone, wherein the
3 bone growth reducing electrical current is applied to the growth plate through the at least
4 one electrode;
5 providing a power source and controller in electrical communication with the at
6 least one electrode, wherein the power source generates the bone growth reducing current
7 and the controller regulates the amount of the current applied to each of the at least one
8 electrode; and
9 monitoring the change in growth of the bone.

1 15. The method of claim 14 further comprising:
2 determining an amount of correction for the bone; and
3 removing the power source when the amount of correction has been achieved.

1 16. The method of claim 10 wherein the bone growth reducing electrical
2 current is at least 50 μ A.

1 17. The method of claim 13 wherein the at least one electrode is positioned in
2 the growth plate.

1 18. A method for correcting the curvature of the spine, comprising the steps
2 of:
3 positioning at least one electrode at a portion of a vertebrae near the outside curve
4 of the spine; and
5 applying a bone growth reducing current to the portion of the vertebrae, wherein
6 the current is effective to reduce the growth of the vertebrae at the outside of the curve
7 without reducing growth of the vertebrae near the inside of the curve.

1 19. The method of claim 18, further comprising the steps of:
2 determining the amount of correction for the curvature of the spine;
3 monitoring the change in curvature of the spine; and
4 removing the at least one electrodes from the vertebrae when the amount of
5 correction for the curvature of the spine has been achieved.

1 20. The method of claim 18, further comprising the steps of:
2 positioning at least two electrodes on the portion of vertebrae along the outside
3 curve of the spine; and
4 providing a power source and controller in electrical communication with the at
5 least two electrodes, wherein the power source generates the bone growth reducing
6 current and the controller regulates the amount of the current applied to each of the at
7 least one electrode.

1 21. The method of claim 20 wherein the controller regulates the frequency and
2 duration of the current applied to each of the at least two electrodes.

1 22. The method of claim 20 wherein the amount of current applied to two or
2 more electrodes is different.

1 23. The method of claim 20 further comprising the step of:
2 programming the controller to apply the amount, frequency, and duration of the
3 current to each of the at least two electrodes.

1 24. The method of claim 18 further comprising the steps of:
2 providing at least one second electrode on a portion of the vertebrae along the
3 inside of the curve of the spine; and
4 applying a bone growth stimulating current to the at least one electrode.

1 25. The method of claim 18 wherein the at least one electrode is positioned in
2 a growth plate.

1 26. The method of claim 18 wherein the at least one electrode is positioned
2 near a growth plate.